

a. What Is Claimed Is:  
claims

1. System for changing a signal representing a rotational movement of a vehicle wheel with
  - first means [i<sub>1</sub>, i<sub>2</sub>, 101, 5030, 5031] for generating a first signal representing the rotary movement and
  - second means [1041, 5102, S1] for generating at least two further signals [BBV, LS], in each case one of the further signals representing, as additional information, different operating states of at least two different devices such as the first means (rotational-speed sensor) or the brake pad of a wheel brake present at the vehicle wheel, and
  - third means [i<sub>3</sub>, 1028, 1029, 5024] by which the first signal can be changed as a function of the further signals [BBV, LS] in a predefinable manner, characterized in that
    - the third means [i<sub>3</sub>, 1028, 1029] are designed in such a way that the change is predefined in a single manner and this change takes place as a function of at least one of the further signals [BBV, LS].
2. System for evaluating a signal representing a rotational movement of a vehicle wheel, the vehicle wheel having a wheel brake, and the signal for transmitting additional information, e.g., the wear of the brake pad of the wheel brake or the signal quality, capable of being modified in a predefinable manner, characterized in that provision is made for
  - generating means [1036, 1037] for generating at least one signal [BLS, V] representing a wheel-brake actuation, and
  - evaluating means [103', 1032, 1033] by which the signal or the modified signal is combined with at least the generated signal [BLS, V] representing a brake actuation, and as a function of this combination, at least two signals [18a, 18b] are formed representing the additional information.
3. System for modification and evaluation of a signal representing a rotational movement with

- first means  $[i_1, i_2, 101, 5030, 5031]$  for generating a first signal representing the rotational movement, and  
- second means  $[1041, 5102]$  for generating at least two further signals  $[S, LS]$ , in each case one of the further signals representing, as additional information, different operating states of at least two different devices such as the first means or brake pad, and  
- third means  $[i_3, 1028, 1029]$ , by which the first signal can be changed as a function of the further signals  $[BBV, LS]$  in a predefinable manner,  
- fourth means  $(103')$ , by which the first or the modified first signal is evaluated and, as a function of this evaluation, at least one signal  $[18a, 18b]$  is generated representing the different operating states of the at least two different devices, characterized in that  
- fifth means  $[1036, 1037]$  are provided for generating at least one signal  $[BLS, V]$  representing a brake actuation and  
- the third means  $[i_3, 1028, 1029]$  are designed in such a way that the change is specified in a single manner and this change takes place as a function of at least one of the further signals  $[BBV, LS]$ , and  
- the fourth means  $[103', 1032, 1033]$  are designed such that the first or the modified first signal is combined with at least the generated signal  $[BLS, V]$  representing a brake actuation, and as a function of this combination, at least two signals  $[18a, 18b]$  are formed representing the additional information.

4. System according to Claim 1 or 3, characterized in that  
- the first means  $[i_1, i_2, 101, 5030, 5031]$  are designed in such a way that the first signal assumes at least two first current values  $[i_1, (i_1 + i_2)]$  and/or at least two first voltage values, and  
- the third means are designed in such a way that to modify the first signal in a single, predefined manner, at least one of the first current values  $[i_1, (i_1 + i_2)]$  and/or at least one

of the first voltage values can be changed to a second current value  $[(i_1 + i_3), (i_2 + i_3)]$  and/or a second voltage value for at least a specific time as a function of the second signal [BBV, LS].

5. System according to Claim 2 or 3, characterized in that the generating means or the fifth means [1036, 1037] are also designed to generate at least one signal [V] representing the vehicle velocity.

6. System according to Claim 2 or 3, characterized in that the linkage in the evaluation means or in the fourth means [103', 1032, 1033] is designed in such a way that signals [18a, 18b] representing the additional information are formed from the time correlation of the signal [BLS, V] representing the actuation of the wheel brake with the predefinable change of the signal representing the rotational movement of a vehicle wheel.

7. System according to Claim 1 or Claim 3, characterized in that the first means are designed in particular as an active speed sensor.

8. System according to Claim 1 or 3, characterized in that the second means [1041, 5102] are designed for generating a signal [BBV] representing the brake-pad wear on at least one vehicle wheel brake and/or for generating a signal [LS] representing the amplitude of a signal  $[U_b]$  joined to the first signal.

9. System according to Claim 1 or 3, characterized in that the first, second and third means are mounted near the wheel and/or the fourth, fifth means or the evaluation means are mounted at a distance from the wheel.

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